

REMARKS

Claims 1 - 25 are pending in this Application. No amendments to the Claims are submitted herein.

In the Final Office Action, the Examiner has rejected the Claims as follows:

- (a) Claims 1 - 15, 19 - 21 and 25 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 2,717,867 issued September 13, 1955 to Jewell et. al.;
- (b) Claim 18 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Jewell et. al.; and
- (c) Claims 1, 16, 17 and 22 - 24 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 2,895,906 issued July 21, 1959 to Harper.

It is respectfully submitted that these rejections of the Examiner are overcome by the remarks that follow.

Independent Claim 1

Independent Claim 1 is as follows (underlining and bolding added):

1. A process for converting a liquid feed material into a vapor phase product comprising the following steps:
 - (a) **providing a fluid bed comprising solid particles and a fluidizing medium**, wherein the fluidizing medium is moving in a substantially vertical fluidizing direction and wherein the solid particles are at a conversion temperature which is suitable for facilitating the conversion of the liquid feed material to the vapor phase product;

- (b) moving the solid particles in a substantially horizontal solid transport direction from an upstream horizontal position to a downstream horizontal position;
- (c) introducing the liquid feed material to the fluid bed at a feed zone located between the upstream horizontal position and the downstream horizontal position in order to facilitate the conversion of the liquid feed material into the vapor phase product; and
- (d) collecting the vapor phase product.

U.S. Patent No. 2,717,867 (Jewell et. al.)

Jewell et. al. is directed at converting a hydrocarbon oil into a coke product and one or more volatile products. To this end, Jewell et. al. does provide a fluid bed (21) in a drum. The fluid bed (21) comprises coke particles and a fluidizing medium which is supplied to the fluid bed (21) by a distribution plate (20). The fluidizing medium appears to move in a substantially vertical fluidizing direction and the coke particles are described as moving generally laterally (i.e., horizontally) between an upstream position (31) and a downstream position (32).

However, Jewell et. al. clearly does NOT teach, suggest or contemplate the following limitations contained in the Applicant's independent

Claim 1:

1. "introducing the liquid feed material [i.e., "hydrocarbon oil" in Jewell et. al.] to the fluid bed..." – instead, Jewell et. al. explicitly teaches introducing the liquid feed material to the fluid bed by mixing coke particles and hydrocarbon oil at a point substantially ABOVE the upper surface of the fluid bed in a vaporizing section located at the upstream position (31) (see column 3, line 35 to column 4, line 46 of Jewell et. al.), and states that it is preferred that: "substantially no

unabsorbed liquid oil be precipitated onto the surface (21) of the coke bed" (see column 3, lines 58-63 and column 4, lines 53-58 of Jewell et. al.); and

2. "introducing the liquid feed material [i.e., "hydrocarbon oil" in Jewell et. al.] to the fluid bed at a feed zone located between the upstream horizontal position and the downstream horizontal position..." – instead, Jewell et. al. explicitly teaches introducing the liquid feed material AT the upstream position (31), since the coke particles and the hydrocarbon oil are introduced together to the fluid bed (21) (see column 3, lines 35-41 and column 4, lines 34-47 of Jewell et. al.).

It is respectfully submitted that Claim 1 is not anticipated by Jewell et. al.

It is well known that to anticipate a claim, the reference must teach each element of the claim. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Company of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

As noted in the above discussion, Jewell et. al. do not anticipate the claimed invention. If the Examiner continues to maintain this ground of rejection, it is respectfully requested that he cite the column and line numbers in Jewell et. al. where the anticipating disclosure exists.

U.S. Patent No. 2,895,906 (Harper)

Harper is directed at the catalytic conversion of reactants by contacting a feed stream such as a gas oil with a mass of fluidized solids which circulate in a cyclical manner through separate contacting zones (19, 20, 21, 22, 23) in a unitary contacting chamber. Fluid streams are introduced into each of the contacting zones (19, 20, 21, 22, 23). Steam is introduced into energizing zone (19). The feed stream (i.e., gas oil) is introduced into reaction zone (20). Steam is introduced into first stripping zone (21). Air is introduced into regeneration zone (22). Steam is introduced into second stripping zone (23). The mass of solids is continuously retained and circulated in the contacting chamber so that the mass of solids passes sequentially and

continuously through contacting zones (19, 20, 21, 22, 23), from contacting zone (23) back to contacting zone (19), and so on.

Harper clearly does NOT teach, suggest or contemplate the following limitations contained in the Applicant's independent Claim 1:

1. **"moving the solid particles in a substantially horizontal solid transport direction from an upstream horizontal position to a downstream horizontal position;"** – instead, the solid particles in the energizing zone (19) in Harper move in a substantially VERTICAL direction between the bottom of baffle (18) and the top of baffle (14) (see Figure 1 and column 5, lines 37-43 of Harper); and
2. **"providing a fluid bed comprising solid particles and a fluidizing medium" and "introducing the liquid feed material [i.e., "gas oil" in Harper] to the fluid bed at a feed zone..."** – instead, the liquid feed material in Harper is introduced to the solid particles in the reaction zone where no fluidizing medium is present, so that the liquid feed material is NOT introduced to a fluid bed comprising solid particles and a fluidizing medium (see column 5, lines 50-54 of Harper).

It is respectfully submitted that Claim 1 is not anticipated by Harper.

It is well known that to anticipate a claim, the reference must teach each element of the claim. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Company of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

As noted in the above discussion, Harper does not anticipate the claimed invention. If the Examiner continues to maintain this ground of rejection, it is respectfully requested that he cite the column and line numbers in Harper where the anticipating disclosure exists.

Summary

In summary, it is respectfully submitted that neither Jewell et. al. nor Harper anticipates independent Claim 1. It is therefore respectfully submitted that independent Claim 1 is allowable and allowance of Claim 1 is respectfully requested.

Dependent Claims 2 - 25 depend directly or indirectly from independent Claim 1. It is respectfully submitted that these dependent Claims are allowable for the distinctions defined therein as well as for the reasons supporting the allowability of Claim 1. Accordingly, allowance of dependent Claims 2 - 25 is also respectfully requested.

In view of the foregoing remarks, it is submitted that this Application is in condition for allowance and allowance of all of Claims 1 - 25 is respectfully requested.

Respectfully submitted,

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